

A REVISION OF THE GENUS *STREPTOGLOSSA* (ASTERACEAE: INULEAE)

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Abstract

Streptoglossa Steetz in F. Muell. is the correct name for the genus currently known as *Pterigeron* (DC.) Benth. Eight species are recognised, all endemic to Australia. The following new combinations are made: *S. macrocephala* (F. Muell.) Dunlop, *S. decurrens* (DC.) Dunlop, *S. odora* (F. Muell.) Dunlop, *S. bubakii* (Domin) Dunlop, *S. liatroides* (Turcz.) Dunlop, *S. adscendens* (Benth.) Dunlop, *S. cylindriceps* (Black) Dunlop. *S. tenuiflora* Dunlop is described as new.

Introduction

The first recorded collection of the genus was by Nicolas Baudin from Western Australia between 1801 and 1803. This was described by A.P. De Candolle (1836) under *Erigeron* (*Pterigeron*) *decurrens*. Asa Gray saw Baudin's specimen in Paris and recognised this species and *Erigeron liatroides* Turcz. (Turczaninow, 1851) as congeners and made the following comment in a footnote in 'Plantae Wrightianae' (Gray, 1852): "Decandolles *Erigeron*? (*Pterigeron*) *decurrens* belongs to the tribe Cynareae in which, with a second and larger-flowered species from tropical New Holland, it forms a new genus".

F. Mueller was unaware of these early publications, placing subsequent collections of the genus under *Pluchea* sect. *Rhodanthemum* (Mueller, 1859a). He had also sent specimens to Joachim Steetz who pointed out sufficient differences to exclude the taxon from *Pluchea* and proposed the new genus, *Streptoglossa*. Mueller published *Streptoglossa* with Steetz's accompanying description (Mueller, 1863), prefacing the description with the following: "... the following genus ... I regarded ... as a subgenus of *Pluchea* to which I had assigned ... the name *Rhodanthemum*". Concurrently, Mueller published the combination *Streptoglossa steetzii* though a specimen was not cited. There is no doubt however, taking into account Mueller's reference above and Steetz's detailed description, that *Streptoglossa* and *Pluchea* sect. *Rhodanthemum* refer to the same taxon.

The type specimen of the type species of *Streptoglossa* has not been found. Steetz's detailed description of a specimen sent to him by Mueller described the capitula as having 15-20 florets, effectively precluding all species except *Streptoglossa odora* and possibly *S. adscendens*. This is a very small head, even for *S. odora* and the author has not seen *S. adscendens* with fewer than 20 florets. One of Mueller's specimens of *S. odora* from Depot Creek, Northern Territory, has 15 florets per capitulum and it has been assumed that Steetz had a duplicate of this in hand.

Bentham (1867), in his treatment of the genus, gave priority to De Candolle's name, *Pterigeron*. It was not until this reinstatement that *Pterigeron* was validly published as a generic name. A. Gray's reference quoted above does not satisfy the conditions outlined in the ICBN for the valid publication of *Pterigeron* as a genus. Bentham's adoption of *Pterigeron* in preference to *Streptoglossa* was contrary to Art. 11 of ICBN (1978), and must be rejected.

Section *Oliganthemum* F. Muell. of *Pluchea* Less. was established by Mueller (1859b) containing one species, *Pluchea filifolia*. Bentham (*op. cit.*, p. 533) included this species in *Pterigeron*, citing *Oliganthemum* as a generic synonym. Subsequent authors have continued to follow Bentham though Airy Shaw (1973) has listed *Pterigeron* as a

synonym of *Oliganthemum*. To the knowledge of the author, *Oliganthemum* has never been validly published as a generic name. *Pterigeron filifolius* (F. Muell.) Benth. is transferred to a new monotypic genus in an accompanying paper (Dunlop, 1981).

Subsequent to Bentham's revision three more species were added to *Pterigeron*: one each by Mueller (1875), Black (1915) and Domin (1929). Mueller's species, *Pterigeron dentatifolius*, is not closely related to other members of the genus and has been transferred to the monotypic genus *Dichromochlamys* Dunlop (Dunlop, 1980).

Affinities

Streptoglossa has traditionally been placed in the Inuleae, subtribe Pluchinae (Bentham, 1873; Bentham and Hooker, 1873; Hoffmann, 1889; Randeria, 1960) where it has been allied with such genera as *Pluchea*, *Blumea*, *Laggera* and *Coleocoma*. In the most recent review of the Inuleae (Merxmüller *et al.*, 1977), the Pluchinae have been placed under an expanded Inulinae where *Streptoglossa* and closely related genera form the informal *Pluchea* group. Within this group *Streptoglossa* is distinguished by ligulate marginal florets, a feature it shares with *Allopterigeron* Dunlop. A discussion of the differences between these two genera is provided in a revision of *Allopterigeron* (Dunlop, 1981).

Within *Streptoglossa*, two natural groups are evident. These groups are clearly divided morphologically and to some extent geographically:

1. *S. bubakii*, *S. macrocephala*, *S. decurrens*, *S. odora*. All these species have a northerly distribution, are strongly odorous and are densely glandular. With the exception of *S. macrocephala*, the glands are predominantly on long stipes. None of the species possesses the minute glands of the receptacle found in two species (*S. adscendens*, *S. liatroides*) of the second group. The last three species have decurrent leaves, two species (*S. macrocephala*, *S. decurrens*) are long-lived shrubs and the others are perennial suffrutescent herbs.

2. *S. adscendens*, *S. cylindriceps*, *S. liatroides*, *S. tenuiflora*. The centre of distribution of *S. adscendens* is central and southern Australia; *S. cylindriceps* and *S. liatroides* are centred in southern and south-western Australia; *S. tenuiflora* is localised in Western Australia. None of the species possesses a strong odour, all are sparsely glandular (relative to group 1) and have glands which are nearly sessile or on short stipes. None of the species has decurrent leaves or is long-lived and shrubby.

Note on Trichome Types

All species of *Streptoglossa* possess glandular and non-glandular trichomes. The glandular trichomes may be further categorized according to whether they are stipitate or sessile or have unicellular or multicellular tips. Throughout this paper these trichomes are referred to as *glands* with no distinction being made between the types. In general the glands of the leaves and stems are quite prominent on long stalks while those of the floral parts are minute and easily overlooked.

The term "glandular hair" has been avoided so it is understood that all adjectives referring to the vestiture of the plant refer to the non-glandular trichomes. The non-glandular trichomes or *hairs* may be simple or multicellular and occur with the glands on the vegetative parts but are sparse or lacking on the floral parts.

STREPTOGLOSSA Steetz in F. Muell.

Streptoglossa Steetz in F. Muell., Trans. Proc. Bot. Soc. Edinburgh 7:491 (1863).

Type: *S. steetzii* F. Muell. [= *S. odora* (F. Muell.) Dunlop].

Erigeron sect. *Pterigeron* DC., Prod. 5:293 (1836).

Pterigeron (DC.) Benth., Fl. Aust. 3:531.1867; Bailey, Qld Fl. 3:818 (1900); Black, Fl. S. Aust. 4:892 (1957).

Type: *Erigeron decurrens* DC.

Pluchea sect. *Rhodanthemum* F. Muell., Rep. Babb. Exped. 12 (1859).

Type: *Pluchea ligulata* F. Muell.

[*Pluchea* sect. *Oliganthemum* auct. non. F. Muell. (1859b); Benth. Fl. Aust. 3:533 (1867); Bailey, Qld. Fl. 3:818 (1900)].

Shrubs or annual or perennial *herbs*. Vegetative parts aromatic or odourless, covered in varying degrees with uniseriate multiseptate trichomes and biseriate stipitate glands; glands in some species on long multiseptate stalks; in others on minute stalks, appearing sessile. *Stems* prostrate, ascending or erect. *Leaves* simple, cauline, alternate, sessile, the bases attenuate, decurrent or stem-clasping; shapes various; margins entire or serrate; venation obscure except for midrib; stomatal pattern anomocytic. *Capitula* heterogamous, solitary on long or short branches, scattered or in loose terminal clusters. *Phyllaries* in several series, rigid, imbricate, ovate to narrow lanceolate, becoming narrower towards the inside; apices mainly acute to acuminate, in one species cuspidate; outer surface glabrous or variously pubescent and glandular; persistent, recurved on drying, never wholly reflexed. *Receptacle* flat, variously sculptured, without palea, glabrous or sparsely pilose, glandular or non-glandular. *Florets* all fertile, the tips of the corollas and exerted parts of anthers and stigmas pink to purple. *Marginal florets* female, in several series, ligulate or the corolla tube regularly or irregularly lobed, the dorsal surface of the ligules and lobes glabrous, rarely sparsely pilose, glandular or non-glandular; style bulbous at base, the stigmatic branches filiform. *Disc florets* bisexual, corollas regularly 5- or 4-lobed, the dorsal surface of upper part of tube and lobes glabrous or sparsely pilose, glandular or non-glandular; lobe apices ventrally papillate; style bulbous at base, shortly branched, strongly papillate in the upper part. Stamens adnate to base of corolla tube, the collar of thickened cells below the anther well developed; anthers tailed; distal appendage of connective obtuse. *Achenes* terete; pericarp red-brown, coriaceous, covered in varying degrees with duplex hairs, with or without superficial pale coloured ribs. Carpopodium pale coloured, annular. *Pappus* setae numerous, in 1-3 series, about as long as corolla, connate at base, white or yellowish, plumose-setose, persistent.

Distribution

Mainland states of Australia (excluding Victoria) and the Northern Territory.

Key to Species

- 1a. Leaves, at least those of the primary stem, markedly decurrent (more than 4 mm) or stem-clasping . . . 2
- b. Leaves simply sessile or only slightly decurrent (less than 2 mm) on stem 4
- 2a. Involucres 1.5 cm or more long; marginal florets without ligules 1. *S. macrocephala*
- b. Involucres less than 1.5 cm long; marginal florets ligulate 3
- 3a. Leaves on primary stem 1-3 cm wide; 45-80 florets per capitulum; capitula usually in terminal clusters 2. *S. decurrens*
- b. Leaves on primary stem rarely more than 1 cm wide; 15-30 (rarely more than 45) florets per capitulum; capitula scattered 3. *S. odora*
- 4a. Leaves all linear or oblanceolate, to 3 mm wide 3. *S. odora*
- b. Leaves not all linear or if oblanceolate broader than 3 mm 5
- 5a. Median phyllaries densely glandular; fresh plants pungently odorous 6
- b. Median phyllaries with few scattered glands or non-glandular; plants never pungently odorous 7
- 6a. Outer and median phyllaries without non-glandular multiseptate hairs; phyllaries straw coloured, never purple-tipped; involucres 1.5 cm or more long 1. *S. macrocephala*
- b. Outer and median phyllaries villous; phyllaries green, often purple-tipped; involucres less than 1.5 cm long 4. *S. bubakii*

- 7a. Involucres less than 1.3 cm long 8
- b. Involucres 1.3 cm or more long 10
- 8a. Receptacles non-glandular 5. *S. tenuiflora*
- b. Receptacles glandular 9
- 9a. Capitula mostly terminating branches longer than 3 cm; plants sparsely and openly branched; ligules conspicuous, 3-6.7 mm long 6. *S. liatroides*
- b. Capitula terminating branches up to 3 cm long; plants much branched, compact; ligules inconspicuous, 1-2 mm long 7. *S. adscendens*
- 10a. Median phyllaries glabrous; receptacles non-glandular 8. *S. cylindriceps*
- b. Median phyllaries glabrescent to villous; receptacles glandular 6. *S. liatroides*

1. *Streptoglossa macrocephala* (F. Muell.) Dunlop, comb. nov.

Pluchea macrocephala F. Muell., Rep. Babb. Exped. 12 (1859), *basionym*.

Type: Gulf of Carpentaria, *F. Mueller s.n.*, 1856 (MEL 42579, lectotype here designated). Fitzmaurice R., *F. Mueller s.n.*, -x.1855 (MEL 42585, syntype).

Pterigeron macrocephalus (F. Muell.) Benth., Fl. Aust. 3: 532 (1867); Bailey, Qld Fl. 3: 819 (1900).

Pterigeron microglossus Benth., Fl. Aust. 3: 532 (1867), *nom. illeg.*, p.p. (*quoad specim.* Fitzmaurice R., *F. Mueller s.n.*, K, syntype); Bailey, Qld Fl. 3: 820 (1900).

Shrub to 1 m; vegetative parts strongly aromatic, pilose to glabrescent (stems sometimes villous), densely glandular, often slightly vernicose, glands on short stipes. *Stem* erect, diffusely branched; current season's branches leafy, older branches leafless, rough with residual leaf bases. *Leaves* ovate, elliptic, oblong or oblanceolate, acute or obtuse; bases stem-clasping or less often attenuate, 1-3.8 cm long, 0.4-1.5 cm wide; margins often slightly recurved, wholly entire or only towards the base or serrate or with shallow lobes; the trichomes of the leaf often confined to margin and midrib. *Capitula* few together in loose corymbs, often enveloped by upper leaves; florets 60-100, disc fewer or more than marginal. *Involucre* 1.5-2 cm long. Outer and median *phyllaries* ciliate, densely glandular; inner series ciliate, sericeous with simple hairs, glandular or non-glandular. *Receptacle* fimbriate, glabrous, non-glandular. *Marginal florets* filiform, straight or bent in upper part, 5-(6-) or 4-lobed, the lobes equal or nearly so, glabrous, non-glandular. Corollas of *disc florets* 9-12 mm long, 5-lobed, glabrous, sparsely glandular. *Achenes* 3-4.5 mm long, densely sericeous, with 7-9 ribs. *Pappus* in c. 3 series.

Distribution

Northern Territory, Queensland and Western Australia. Map 2.

Selection of Specimens Examined

NORTHERN TERRITORY: 14 miles SE of Willowra Homestead, *G.M. Chippendale* NT 4728, 29.vii.1958 (CANB, MEL, NSW, NT, PERTH); Lake Nash, *M. Costello s.n.*, -iii.1896 (BRI); 36 miles S of The Granites, *C.R. Dunlop* 1780, 30.vii.1970 (BRI, NT); 78 miles WNW of Tanami, *C.R. Dunlop* 2331, 13.ix.1971 (AD, DNA, NT); central Mt Stuart, *A.J. Ewart s.n.*, -vii.1924 (MEL); Barrow Creek, *E. Gauba s.n.*, 6.x.1950 (CBG, NSW, includes *S. liatroides*); 89 miles SSW of Hooker Creek, *C.H. Gittins* 2263, 7.viii.1971 (NT); 56 miles E of Frewena, *N.M. Henry* 196, 21.vii.1971 (BRI, CBG, NT, PERTH); Ti-Tree Well (Tea Tree), *R. Hill & H.W. Caulfield s.n.*, -vii.1953 (AD); 40 miles E of The Granites, *H.A. Johnson s.n.*, -vii.1957 (NT); 62 km S of Tennant Creek, *P.K. Latz* 1840, 17.xi.1971 (NT); Murray Downs, *T.R.N. Lothian* 548/54, 1954 (AD); Fitzmaurice R., *F. Mueller s.n.*, -x.1855 (K, syntype of *Pterigeron microglossus*; MEL 42585, syntype of *Pluchea macrocephala*); 20 miles S of Tennant Creek, *D.J. Nelson* 1524, 27.vii.1967 (AD, CBG, NSW, NT); 90 miles WSW of Lake Nash, *R.A. Perry* 909, 22.v.1948 (CANB, two sheets); near The Granites, *Terry Exped. s.n.*, 25.vii.1928 (MEL).

QUEENSLAND: Oban, *S.L. Everist* 3366, 5.xii.1947 (BRI, CANB); Gulf of Carpentaria, *F. Mueller s.n.*, 1856 (MEL 42579, syntype of *Pluchea macrocephala*); Georgina R., *E. Whilan s.n.*, undated (BRI).

WESTERN AUSTRALIA: c. 100 miles E of Anna Plains, *W.H. Butler s.n.*, -viii.1963 (PERTH); Nine Mile Ridge, East Kimberley, *W.V. Fitzgerald s.n.*, -ix.1906 (NSW); Goose Hill, East Kimberley, *W.V. Fitzgerald* 1604, -ix.1906 (PERTH); Minilya R., *C.A. Gardner* 3206, 23.viii.1931 (PERTH); 52 miles W of Jupiter Well,

A.S. George 9092, 29.vii.1967 (PERTH); between Alfred and Marie Ra. and Rawlinson Ra., *E. Giles s.n.*, undated (1876) (MEL); N of Balgo Mission, P.K. Latz 4043, 20.vii.1973 [CANB, DNA, NT, PERTH (n.v.)]; 26 miles ENE of Broome, M. Lazarides 6584, 25.ix.1959 (CANB, PERTH); 16 miles E of Carlton, R.A. Perry & M. Lazarides RAP 2657, 29.vii.1949 (AD, BRI; CANB, two sheets; MEL, NSW, NT, PERTH); Roebuck Bay, J. Tepper 38, -ix.1889 (MEL, PERTH).

Notes

Mueller cited two collections when describing *Pluchea macrocephala*, one from Fitzmaurice R. and the other from the Nicholson and Flinders Rivers. A specimen with the latter locality was not found though a collection of Mueller's labelled "Gulf of Carpentaria 1856" and annotated by Mueller is undoubtedly the syntype cited. This collection has been designated the lectotype. The collection from Fitzmaurice R. (along with a collection of *S. liatroides*) was later cited by Bentham in naming *Pterigeron microglossus*.

Leaf shape in *S. macrocephala* is variable. Some specimens show quite narrow oblanceolate leaves with attenuate bases (Perry & Lazarides 2657) though the majority are consistently ovate to oblong with stem-clasping bases. None of the specimens examined in this revision shows the two leaf types on the one plant though intermediate forms (Nelson 1524) do exist.

In the Northern Territory the occurrence of *S. macrocephala* is centred in the red sand plain country which extends across the Territory in the region of 21° south latitude and includes the Tanami Desert. It is found in similar country in western Queensland at the same latitude.

2. *Streptoglossa decurrens* (DC.) Dunlop, comb. nov.

Eriogon decurrens DC., Prod. 5:293 (1836), *basionym*.

Type: "cote occidentale . . . n(ouv)elle Hollande", N. Baudin s.n., undated (1800-1803) [P, holotype (n.v.); NT, photo].

Pterigeron decurrens (DC.) Benth., Fl. Aust. 3: 531 (1867).

Shrub to c. 70 cm; vegetative parts strongly aromatic, pilose to villous, densely glandular; glands on long and short stipes. *Stem* erect, leafy or the older branches leafless with residual leaf scars. *Leaves* oblong, elliptic or rarely oblanceolate, acute; bases decurrent; leaves of the stem and main branches 2-6 cm long, 0.8-2.3 cm wide, leaves of the branchlets 0.8-2 cm long, 0.2-0.6 cm wide; margins entire or serrate; several narrow leaves subtend capitula. *Capitula* usually in corymbose clusters on lateral branches; florets 45-80, disc fewer than marginal. Involucre 0.8-1.4 cm long. Several of the outer *phyllaries* with leaf-like tips, outer and median ciliate, pilose, densely glandular, inner glabrous or glabrescent, usually ciliate, glandular or non-glandular. *Receptacle* areolate, glabrous, non-glandular. *Marginal florets* ligulate, ligules 1.5-3 mm long, regularly or irregularly 3- or 4-lobed, one lobe often more deeply incised; glabrous, non-glandular. *Corollas of disc florets* 6-7 mm long, 5-lobed, glabrous, usually non-glandular. *Achenes* 2-2.5 mm long, densely sericeous, without ribs. *Pappus* in 2 or 3 series, setae of the outer series, if present, very short.

Distribution

Northern Territory, Queensland and Western Australia. Map 1.

Selection of Specimens Examined

NORTHERN TERRITORY: near Haasts Bluff, N.T. Burbidge & M. Gray NT B4280, 24.ix.1955 (CANB, NT, PERTH); near Mt Liebig, G.M. Chippendale NT 3563, 23.vii.1957 (NT, CANB); Yuendumu, C.R. Dunlop 2341, 14.ix.1971 (NT); Glen of Palms (Finke R.), E. Giles s.n., 1872 (MEL); Heavitree Ra., C.H. Gittins 2007, -ix.1969 (BRI); Mt Panton, R. Helms s.n., 1896 (PERTH); Finke R., H. Kempe 178, -xii.1879 (MEL); 2 miles S of Hermannsburg, P.K. Latz 3131, 20.vii.1972 (NT); Mt. Gillen, P.K. Latz 4529, 26.vii.1973 (DNA, NT); 4 km

NNW of Santa Teresa Mission, *P.K. Latz 5832*, 26.xi.1974 (ADW, NT); near Haasts Bluff, *T.G.H. Strehlow s.n.*, 1932-1933 (AD); Laura Vale, *W. Tietkens s.n.*, 1889 (AD, MEL); Loves Ck, *S.A. White s.n.*, 15.ix.1913 (AD).

QUEENSLAND: Ardmore, *S.L. Everist 3251*, 23.xi.1947 (BRI, CANB); Cloncurry, *V. Scarth-Johnson 512*, 27.viii.1970 (BRI).

WESTERN AUSTRALIA: "cote occidentale . . . n(ouv)elle Hollande," *N. Baudin s.n.*, undated (1801-1803) [P, holotype, (n.v.); NT, photo]; near Gascoyne Junction, *J.S. Beard 6030*, 18.viii.1970 (NSW); Millstream, *M.I.H. Brooker 2116*, 26.ix.1969 (PERTH); Wallal Downs, *N.T. Burbidge 1506*, 20.vii.1941 (PERTH); Barrow Is., *B. Clay & M. Yardau s.n.*, 21-24.xi.1965 (PERTH); N of Mt Tom Price, *M. Cole WA5116*, 1.ix.1963 (PERTH); Harding R., *W.A. Cusack 163*, 1895 (PERTH); Yule R., *J. Forrest s.n.*, 1878 (MEL, PERTH); Minilya R., *J. Forrest s.n.*, 1882 (MEL, two sheets); 6 miles N of Roebourne, *C.A. Gardner 6343*, 18.x.1941 (PERTH); De Grey R., *C.A. Gardner 8098*, 8.ix.1946 (PERTH); Monte Bello Is., *Hill s.n.*, 12.xi.1953 (CANB); Depuch Is., *R.D. Royce 7128*, 30.v.1962 (PERTH); Kennedy Ra., *C. Teichert s.n.*, -ix.1948 (MEL); Nickol Bay, *P. Walcott & H. Brown s.n.*, 1861 (MEL).

Notes

S. decurrens is closely related to *S. odora* and is not always easily distinguished from it. The leaves of *S. odora* are generally narrower with leaves of up to 1 cm wide occurring only on the central stem. The leaves of the branchlets are usually narrow linear in *S. odora* and oblong to elliptic in *S. decurrens*. In the Northern Territory *S. decurrens* is confined mainly to the scree slopes and gorges of the Central Australian ranges, while *S. odora* has a more northerly distribution and grows in a variety of habitats.

In both species the gland tips are red-brown, distinguishing them from all other species which have pale yellow gland tips.

3. *Streptoglossa odora* (F. Muell.) Dunlop, comb. nov.

Pluchea odora F. Muell., Rep. Babb. Exped. 12 (1859), *basionym*.

Type: Depot Ck, Victoria R., *F. Mueller s.n.*, -iii.1856 (MEL 42595 *p.p.*, lectotype here designated); Baines Ck, *F. Mueller s.n.*, -v.1856 (MEL 42596, syntype); Victoria R., *F. Mueller s.n.*, undated (MEL 42543, syntype).

Pterigeron odoratus (F. Muell.) Benth., Fl. Aust. 3: 532 (1867); Bailey, Qld Fl. 3: 819 (1900).

Streptoglossa steetzii F. Muell., Trans. Proc. Bot. Soc. Edinburgh 7: 491 (1863).

Type: not designated; possibly syntype of *Pluchea odora* F. Muell. (probably lost).

Pterigeron odoratus var. *major* Benth., Fl. Aust. 3: 532 (1867), *p.p.* (quoad specim. Albert R., ?*Henne s.n.*, undated [K (n.v.)], syntype; MEL 42597, dated 1861, probable isosyntype).

Perennial suffruticose *herb* to 60 cm; vegetative parts strongly aromatic, pilose to villous, densely glandular, glands on long and short stipes. *Stem* erect, leafy. *Leaves* of the stem and main branches oblanceolate, rarely linear, acute, bases decurrent or obscurely so in narrow linear leaves, 1.5-5.5 cm long, 0.4-0.8 (1.5) cm wide, margins entire or irregularly serrate; leaves of the branchlets narrow linear, oblong or oblanceolate, 0.5-1.5 cm long, 0.1-0.4 cm wide, margins entire or serrate; several narrow leaves subtend capitula. Rarely leaves of the whole plant narrow linear. *Capitula* on long or short branches, scattered; florets 15-30 (rarely to 60), disc fewer than marginal. *Involucre* 0.8-1.1 cm long. Several of the outer *phyllaries* with leaf-like tips, outer series ciliate towards the base, pilose, densely glandular; median ciliate, glabrous or glabrescent, densely glandular; inner ciliate, glandular towards the apices. *Receptacle* alveolate-fimbriate, glabrous, non-glandular. *Marginal florets* ligulate, ligules 1-3 mm long, regularly or irregularly 2-4-lobed, glabrous, usually non-glandular. Corollas of *disc florets* 5-6.5 mm long, 5-lobed, glabrous, usually non-glandular. *Achenes* 2-3 mm long, densely sericeous, without ribs. *Pappus* in 3 series, setae of the outer series short.

Distribution

Northern Territory, Queensland and Western Australia. Map 2.

Selection of Specimens Examined

NORTHERN TERRITORY: c. 5 miles W of Anitowa H.S., *G.M. Chippendale* NT 3145, 23.x.1956 [AD (n.v.), BRI, CANB, MEL, NSW, NT, PERTH]; Eva Downs and Ashburton Ra., *L. Dittrich s.n.*, -ix.1886 (MEL, includes *S. bubakii*); Mongrel Downs, *C.R. Dunlop* 2109, 20.iv.1971 (NT); 90 miles NW of Camp 111, *G.F. Hill s.n.*, 15.vi.1911 (MEL, NSW); 14 miles SSW of Goyder R. crossing, *P.K. Latz* 3115, 3.vii.1972 (CANB, NSW, NT); c. 5 miles E of Undoolya Gap, *P.K. Latz* 3145, 27.vii.1972 (DNA, MEL, NSW, NT); Depot Ck, Victoria R., *F. Mueller s.n.*, -iii.1856 (MEL 42595); Baines Ck (R.), *F. Mueller s.n.*, -v.1856 (MEL 42596, syntype of *Pluchea odora*); Victoria R., *F. Mueller s.n.*, undated (MEL 42543, syntype of *Pluchea odora*); Roper R., *F. Mueller s.n.*, undated (1856) (K, syntype of *Pterigeron adscendens*).

QUEENSLAND: Etheridge R., *E. Armit* 605, undated (BRI; MEL, two sheets); Boulia, *S.T. Blake* 6477, 28.vi.1934 (BRI); Delta Downs, *S.T. Blake* 12528, 14.viii.1936 (BRI); Hughenden, *W.D. Francis s.n.*, -v.1934 (BRI); between Norman and Gilbert Rivers, *J. Gulliver* 84, 1874 (MEL); Lynd R., *W. Hann* 9, -xii.1873 (K); Albert R., *?Henne s.n.*, undated [MEL; K, (n.v.)], syntype of *Pterigeron odoratus* var. *major*; New Highland Plains H.S., *P.K. Latz* 1615, 23.vii.1971 (MO, NT); 56 km SE of Cloncurry, *J.R. Maconochie* 1639, 26.viii.1972 (DNA, NT); Bowen Downs, *F. Mueller s.n.*, undated (MEL); 18 miles W of Canobie, *N.H. Speck* 4780, 31.vii.1954 (BRI; CANB, two sheets; MEL, NSW, NT); Ravenswood dist., *F. Tinsley s.n.*, 30.x.1933 (BRI).

WESTERN AUSTRALIA: Goody Goody, *W.V. Fitzgerald* 242, -iv.1905 (PERTH); near Mt House, *W.V. Fitzgerald* 955, -v.1905 (PERTH); Isdell R., *W.V. Fitzgerald* 1477, -ix.1905 (PERTH); Port Hedland, *W.V. Fitzgerald s.n.*, -x.1905 (NSW); Depot Pool, *A. Forrest s.n.*, 1879 (MEL); Pentacost Ra., *J.R. Maconochie* 156, 19.v.1967 (NT); near Broome, *W. Mjoberg s.n.*, -vii.1911 (NSW); Margaret and Ord Rivers, *Turner s.n.*, 1884 (MEL).

Notes

The lectotype of *Pluchea odora* was chosen from several specimens collected by Mueller near Victoria R. It is the only collection available to Steetz which closely fits his description of *Streptoglossa*. By inference, Mueller based the name *Streptoglossa steetzii* on the same specimen.

The type of *Pterigeron odoratus* var. *major* consists of a specimen (*Bowman* 102) of *S. bubakii* and another which falls into the normal range of variation of *S. odora*. When citing the latter specimen, from Albert R., Bentham named Mueller as the collector though the probable duplicate (MEL 42597) is dated 1861. As this is the year Henne collected in the Gulf of Carpentaria, it is possibly one of his specimens.

4. *Streptoglossa bubakii* (Domin) Dunlop, comb. nov.

Pterigeron bubakii Domin, Bibl. Bot. 89: 1217 (1929), *basionym*.

Type: north west Aust. between Ashburton and De Grey Rivers, *E. Clement s.n.*, undated (1897) (K, holotype).

Pterigeron odoratus var. *major* Benth. Fl. Aust. 3:532 (1867), *p.p.*, (quoad specim. *Suttor* R., *E. Bowman* 102, undated [K (n.v.)], syntype; MEL 42598).

Perennial suffruticose herb to c. 70 cm; vegetative parts strongly aromatic, pilose to villous, densely glandular, glands on long and short stipes. Stem erect or ascending, leafy, the larger plants profusely branched and compact. Leaves oblanceolate or obovate, acute, obtuse or rounded, bases attenuate, 1-7 cm long, 0.2-1.8 cm wide; margins entire or serrate. Capitula on long, rarely short branches, towards the top of the plant; florets 40-100, disc fewer than marginal. Involucre 1-1.5 cm long. Several of the outer phyllaries with leaf-like tips, outer and median series ciliate, villous, densely glandular; inner ciliate, pilose, glandular. Receptacle alveolate-fimbriate or foveolate, sparsely pilose, rarely glabrous, non-glandular. Marginal florets shortly ligulate or more usually 3-6-lobed, the lobes equal or nearly so, glabrous or sparsely pilose, glandular. Corollas of disc florets 5-7 mm long, 5-lobed, sparsely pilose, rarely glabrous, glandular. Achenes 2.5-3.5 mm long, sericeous, with 8-10 ribs. Pappus in 3 series, the outer setae short.

Distribution

Northern Territory, Queensland and Western Australia. Map 3.

Selection of Specimens Examined

NORTHERN TERRITORY: 11 miles NW of Alexandria, *G.M. Chippendale in NT 7148*, 9.vi.1960 (AD, CANB, K, MEL, NSW, NT, TTC); 38.7 miles SE of Ranken, *G.M. Chippendale in NT 7247*, 20.vi.1960 (AD, MEL, NSW, NT, PERTH); Eva Downs and Ashburton Ra., *L. Dittich s.n.*, -ix.1886 (MEL, includes *S. odora*); Mongrel Downs, *C.R. Dunlop 2110*, 20.iv.1971 (NT); Tarlton Ra., *C.R. Dunlop 2549*, 20.v.1972 (MO, NSW, NT); Wycliffe Well, *A.J. Ewart s.n.*, -vi.1924 (MEL 42595; MEL 42603, includes *S. odora*); SSW of Highland Plains, *P.K. Latz 1660*, 26.vii.1971 (AD, CANB, NSW, NT, PERTH, TTC); 0.75 miles N of Katherine airport, *P.K. Latz 3115B*, 3.vii.1972 (CANB, NSW, NT); Lat. 18°00' 00", *J. Macd. Stuart s.n.*, undated (MEL).

QUEENSLAND: N. Hughenden, *S.T. Blake 12662*, 24.vii.1936 (BRI); Suttor R., *E. Bowman 102*, undated (MEL); 40 miles N of Julie Creek, *J. Ebersohn E246*, 8.ix.1962 (BRI); Camooweal, *P.K. Latz 1597*, 22.vii.1971 (NT); 20 miles S of Burketown, *W. MacGillivray 2163*, 31.vii.1928 (BRI); Cloncurry, *E. Palmer 4B*, 29.vii.1882 (BRI).

WESTERN AUSTRALIA: Marillana, *J.S. Beard 4504*, 12.viii.1966 (PERTH); 20 miles N of Millstream (Stn), *J.S. Beard 4548*, 18.vii.1966 (PERTH); between Dampier and Mt Tom Price, *J.G. Campion s.n.*, -x.1968 (PERTH); Fortescue R., *H.S. Carey s.n.*, 1878 (NSW); between Ashburton and De Grey Rivers, *E. Clement s.n.*, undated (1897) (K, holotype); Mary R., *W.V. Fitzgerald 480*, -xi.1905 (PERTH); Cane and Ashburton Rivers, *A. Forrest s.n.*, 1878 (MEL); Gascoyne R., *Pollack s.n.*, 1882 (MEL); between Dampier and Mt Tom Price, *E.B.J. Smith s.n.*, -x.1968 (PERTH); Ord River (Stn), *P. Walter s.n.*, 31.v.1960 (DNA).

Notes

Field data from the Northern Territory and Queensland suggests that this species is mainly restricted to heavy clay soils.

5. *Streptoglossa tenuiflora* Dunlop; species nova, affinis *S. liatroidi* (Turcz.) Dunlop et *S. adscendii* (Benth.) Dunlop, a quibus receptaculo eglanduloso et flosculis perangustis differt.

Herba annua (? perennis). Rami et folia pilosa usque villosa, glandulifera, glandulis brevissimis stipitatis; *Caulis* erectus, ramificatione diffusus. *Folia* inferiora anguste obovata, irregulariter serrata, 2.5-4 cm longa, 0.3-0.8 cm lata, costa decurrente; folia superiora anguste obovata usque linearia, 0.6-2.5 cm longa, 0.05-0.3 cm lata, cum pluribus foliis linearibus villosis sub capitulis. *Capitula* in extremitatibus ramorum brevium vel longorum, in corymbis laxis disposita; flosculi c. 90, plures marginales quam disci. *Receptaculum* glabrum, eglandulosum, foveolatum. *Involucri* c. 1 cm longa. *Phyllaria* extima cuspidata, ad apices glabra, sub apicibus glandulosa, pilosa et dense ciliata; phyllaria mediana cuspidata usque acuminata, glabra vel glabrata; phyllaria intima angusta, acuta, apicibus plumosis. *Flosculi marginales* ligulati; ligulae extra glanduliferae, 1-2 mm longae, 2-lobae, leviter ultra involucri exsertae. *Flosculi disci* c. 6 mm longi, 5- vel 4-lobi, lobis extra glanduliferis. *Achenia* c. 2 mm longa, sparse sericea, costis c. 8. *Pappus* uniserialis, setis c. 14 brevissime plumosis.

Holotypus: Western Australia, De Grey Stn, *N.T. Burbidge 1584*, 28.vii.1941 (PERTH). Fig. 1.

Annual (? perennial) *herb*; vegetative parts pilose to villous, glandular, glands very shortly stipitate, appearing sessile. *Stem* erect, diffusely branched. Lower *leaves* with decurrent midrib, oblanceolate, bases attenuate, 2.5-4 cm long, 0.3-0.8 cm wide, irregularly serrate; upper leaves oblanceolate to linear, 0.6-2.5 cm long, 0.05-0.3 cm wide, with several villous leaves under capitula. *Capitula* on short or long branches, in loose corymbs; florets c. 90, disc fewer than marginal. *Involucre* c. 1 cm long. Outer *phyllaries* cuspidate with glabrous tips, densely ciliate, pilose and glandular below the tip; median cuspidate to acuminate, glabrous or glabrescent; inner narrow acute with plumose tips. *Receptacle* foveolate, glabrous, non-glandular. *Marginal florets* ligulate, ligules 1-2 mm long, 2-lobed, glabrous, glandular. *Disc florets* c. 6 mm long, 5- or 4-lobed, lobes glandular. *Achenes* c. 2 mm long, sparsely sericeous, with c. 8 ribs. *Pappus* in a single series, setae c. 14, very shortly plumose.

Distribution

Western Australia. Map 3.

Specimens Examined

WESTERN AUSTRALIA: Pardoo Stn, Pardoo Flats, *N.T. Burbidge 1521*, 24.vii.1941 (PERTH); De Grey Stn, *N.T. Burbidge 1584*, 28.vii.1941 (PERTH, holotype).

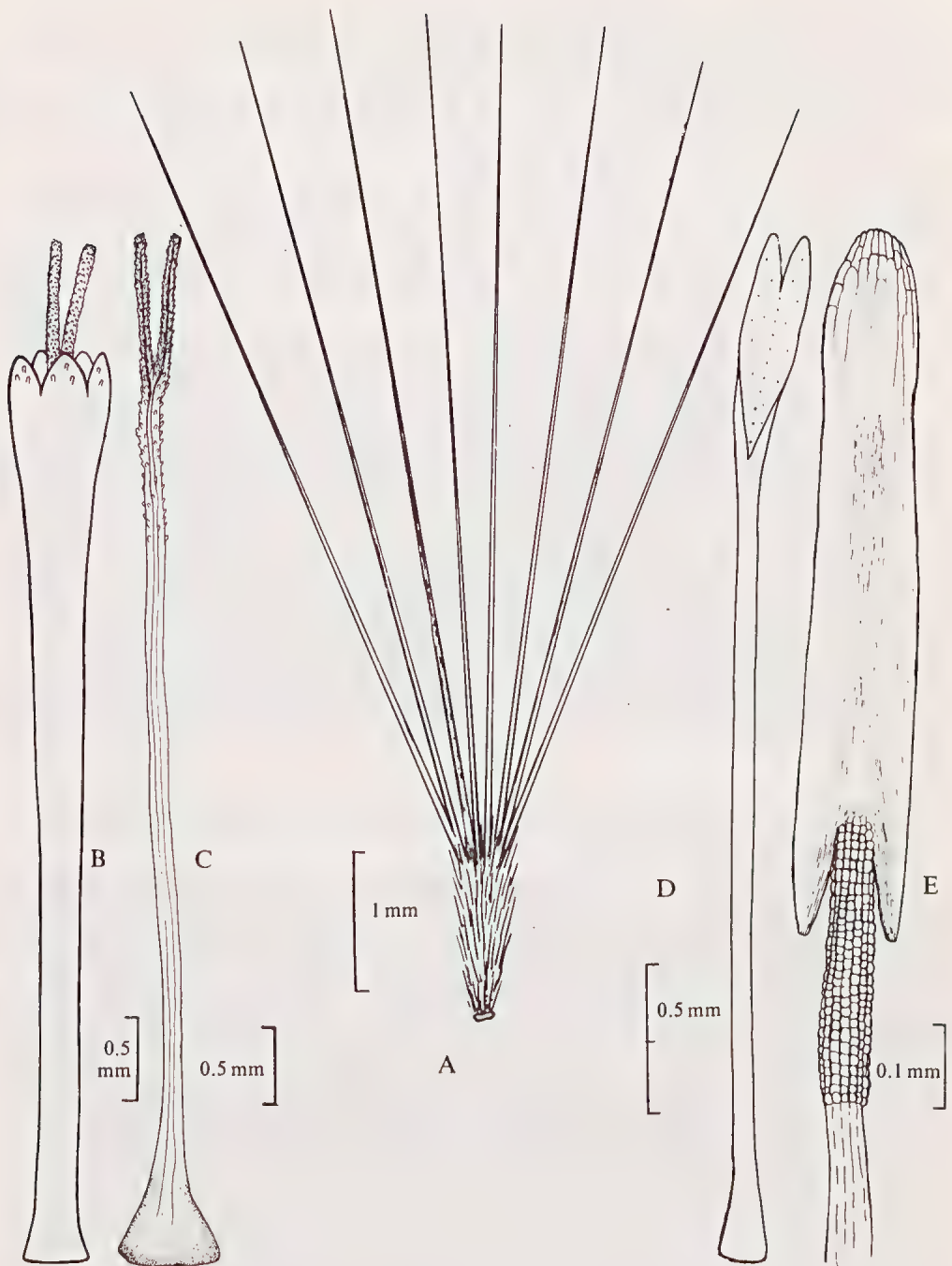


Fig. 1. *Streptoglossa tenuiflora* Dunlop, from holotype. A, achene; B, corolla of disc floret; C, style of disc floret; D, corolla of marginal floret; E, stamen.

6. *Streptoglossa liatroides* (Turcz.) Dunlop, comb. nov.

Erigeron liatroides Turcz., Bull. Soc. Imp. Nat. Moscow 24 (1): 172 (1851), *basionym*.

Type: Nova Hollandia (Western Australia), *J. Drummond* iv. 222, undated [KW (n.v.)], holotype, NT photo; MEL 42573; PERTH].

Pterigeron liatroides (Turcz.) Benth., Fl. Aust. 3: 532 (1867); Bailey, Qld Fl. 3: 819 (1900); Black, Fl. S. Aust. 4: 892 (1957).

Pluchea ligulata F. Muell., Rep. Babb. Exped. 12 (1859).

Type: L. Torrens (L. Gregory, Wonomulla Blanchwater), *G. Hawker* s.n., undated (1858) (MEL 42574, syntypes).

Pterigeron liatroides var. *humilis* Benth., Fl. Aust. 3: 532 (1867).

Type: the interior of Australia, *J. McD. Stuart* s.n., 1859 (K, syntype); L. Gregory, *G. Hawker* s.n., undated [K (n.v.)], syntype].

Pterigeron microglossus Benth., Fl. Aust. 3: 532 (1867), *nom. illeg.*, p.p. [*quoad specim.* Sturt Ck, *F. Mueller* s.n., undated (1856) (K, syntype; MEL 42586)]; Bailey, Qld Fl. 3: 820 (1900).

Pterigeron liatroides var. *repens* S. Moore, J. Linn. Soc. Bot. 34: 196 (1898).

Type: between Gibraltar and Coolgardie, *S. Moore* s.n., -x.1895 [BM (n.v.)], lectotype here designated, NT, photo]; between Uladdie soak and Yilgange claypans, *S. Moore* s.n., -iii.1895 [BM (n.v.)], NT, photo, syntype].

Short-lived perennial *herb* to c. 50 cm; vegetative parts not, or only slightly aromatic, pilose, glandular; glands very shortly stipitate, appearing sessile. *Stem* erect, ascending or prostrate, leafy. *Leaves* oblanceolate to spatulate, acute to obtuse, bases attenuate, 1-5 cm long, 0.2-1.5 cm wide, margins irregularly serrate or entire, several narrow leaves subtend capitula. *Capitula* on long branches; florets 50-190, disc fewer than marginal. *Involucre* 1.1-1.7 cm long. Outer and median *phyllaries* ciliate, glabrescent to villous, sparsely glandular; inner glabrous or glabrescent with plumose tips, non-glandular. *Receptacle* foveolate, glabrous, glandular. *Marginal florets* ligulate, ligules 3-6.7 mm long, 2-4-lobed, glabrous, glandular. Corollas of *disc florets* 6-9 mm long, 5-lobed, glabrous, glandular. *Achenes* 2.5-4 mm long, densely or sparsely sericeous; ribs 10-13. *Pappus* in c. 2 series.

Distribution

Northern Territory, New South Wales, South Australia, Western Australia. Map 3.

Selection of Specimens Examined

NORTHERN TERRITORY: 11 miles N of Maryvale Homestead, *G. M. Chippendale* NT 2737, 3.ix.1956 (NT); Mongrel Downs, *C. R. Dunlop* 1837, 5.viii.1970 (NT); Barrow Creek, *E. Gauba* s.n., 6.x.1950 (CBG, NSW); Charlotte Waters, *C. Giles* s.n., 1875 (MEL); Finke R., *H. Kempe* 240, undated (MEL); James Ra., *P. K. Latz* 4918, 23.iv.1974 (BRI, CANB, MO, NT); Sturt Ck, *F. Mueller* s.n., undated (1856) (MEL 42586; K, syntype of *Pterigeron microglossus*); between Crown Point and Horseshoe Bend, *S. A. White* s.n., -viii.1913 (AD).

NEW SOUTH WALES: Yandarloo (Yandaroo), *W. Bauerlen* 197, -ix.1887 (BRI); Koorningbirry (Koonenberry Mt.), *W. Bauerlen* 197, -ix.1887 (MEL); Milparinka to Tibooburra, *N. C. W. Beadle* s.n., -ix.1939 (NSW); Evelyn Ck, N of Barrier Ra., *A. King* s.n., 1887 (MEL).

SOUTH AUSTRALIA: L. Torrens (L. Gregory, Wonomulla), *Babbage* Exped. s.n., undated (1858) (MEL 42574, syntype of *Pluchea ligulata*); Anna Creek, *J. B. Cleland* s.n., 10.ix.1930 (AD); S Charlotte Water. *L. Dietrich* 8, 1885 (MEL); near Mt Everard, *E. Giles* s.n., 1882 (MEL); Dalhousie Springs, *T. Gill* s.n., -vi.1916 (NSW); Evelyn Downs, *E. H. Ising* s.n., -x.1950 (ADW); Mt Lyndhurst, *M. Koch* 257, 1897 (NSW); Mt Sarah, *T. R. N. Lothian* 1944, 13.viii.1963 [AD (n.v.)], NSW, NT], L. Eyre, *W. B. Spencer* s.n., -ix.1903 (NSW); interior of Australia, *J. McD. Stuart* s.n., 1859 (MEL).

WESTERN AUSTRALIA: Doorwarrah, *T. E. H. Aplin* 5385, 13.xi.1963 (PERTH); near Lyndon R., *H. S. Carey* s.n., 1885 (MEL, two sheets); Western Australia, *J. Drummond* iv. 222, undated [KW (n.v.)], holotype of *Erigeron liatroides*, NT photo; K (n.v.), MEL 42573, PERTH]; Western Australia, *J. Drummond* s.n., undated (MEL, seven sheets; NSW); Cane R., *A. Forrest* s.n., 1878 (MEL); Nannine, *W. V. Fitzgerald* s.n., -ix.1903 (NSW, includes *S. cylindriceps*; PERTH); Wandagee, *C. A. Gardner* 6200, 8.x.1941 (PERTH); between Uladdie Soak and Yilgange claypans, *S. Moore* s.n., -iii.1895 [BM (n.v.)], NT photo.]; between Gibraltar and Coolgardie, *S. Moore* s.n., -x.1895 [BM (n.v.)], NT photo.]; 40 miles SE of Gascoyne Junction, *B. L. Turner* 5385, 22.viii.1965 [MEL (n.v.); PERTH, voucher for chromosome count].

Notes

S. liatroides is a widespread and variable species. The capitula in plants from South Australia and southern Western Australia are generally larger than those from the northern limits of distribution but no discontinuity is apparent. The density of duplex hairs on the achene is also variable. Achenes from southern localities are usually more densely sericeous than those from the north. Bentham's *Pterigeron microglossus* is based partly on one of these northern forms with small capitula and sparsely hairy achenes.

In describing *Pluchea ligulata*, Mueller cited collections from several localities including Lake Gregory and Wonnomulla Blanchwater, naming G. Hawker as the collector. The only collection the author has seen which could possibly correspond to these is MEL 42574, labelled: "*Pluchea ligulata* . . . Babbage . . . Lake Torrens (Lake Gregory, Wanomulla)". The annotation is Mueller's so presumably this represents the type sheet.

A similar situation exists with *Pterigeron liatroides* var. *humilis*. Bentham cited "In the interior, Lake Gregory, G. Hawker; Strangways River, McDouall Stuart's Expedition" with his original description though specimens labelled as such have not been seen. A Stuart collection of *P. liatroides* var. *humilis* which probably corresponds to the above has been annotated by Bentham with volume and page reference to Flora Australiensis. The label does not mention Strangways R., giving the locality merely as 'the interior of Australia'.

Stuart's specimen consists of a sheet of stunted plants which have flowered prematurely, undoubtedly as a result of a short growing season. In all other respects these plants are within the normal range of variation of the species.

In the extreme form, *P. liatroides* var. *repens* S. Moore would appear to be a distinct taxon. The type specimens and others from the Goldfields area of Western Australia are decidedly prostrate and have leaves of a regular size and shape over the whole plant. There is a large number of specimens, however, showing intermediate features between this variety and the type, presenting a continuum between the upright and prostrate forms.

Chromosome number

The chromosome number, $n = 10$, was reported for *S. liatroides* by Turner (1970).

7. *Streptoglossa adscendens* (Benth.) Dunlop, comb. nov.

Pterigeron adscendens Benth., Fl. Aust. 3:533 (1867), *basionym*. Bailey, Qld Fl. 3:820 (1900); Black, Fl. S. Aust. 4:893 (1957).

Type: Suttor R., *F. Mueller s.n.*, undated (1856) (K, lectotype here designated; MEL 42542); Cape R., *E. Bowman s.n.*, undated (K, syntype); Roper R., *F. Mueller s.n.*, undated (K, syntype, = *S. odora*); Flinders R., *F. Mueller s.n.*, undated (K, syntype); Belyando R., *T.L. Mitchell* [K (n.v.), syntype].

Annual or short-lived perennial herb to 40 cm; vegetative parts slightly aromatic, pilose, glandular; glands very shortly stipitate, appearing sessile. Stem erect, much branched, leafy, the plants compact. Leaves oblanceolate, rarely spatulate, acute, bases attenuate, 1-5 cm long, 0.1-1.7 cm wide, margins irregularly serrate or entire. Capitula on short, rarely long, branches, often almost sessile, scattered; florets 20-40, disc fewer than marginal. Involucre 0.7-1.1 cm long. Outer phyllaries with leaf-like tips, ciliate, pilose, glandular; median ciliate or entire, pilose or glabrescent, usually glandular; inner ciliate, non-glandular or sparsely so. Receptacle alveolate-fimbriate, glabrous, glandular. Marginal florets ligulate, ligules 1-2 mm long, glabrous, glandular. Corollas of disc florets 4-6 mm long, 5- or 4-lobed, glabrous, glandular. Achenes 2-3 mm long, densely sericeous, with 6-8 ribs. Pappus in 2 series.

Distribution

As for the genus. Map 1.

Selection of Specimens Examined

NORTHERN TERRITORY: 6 miles S of Alroy Downs, *G.M. Chippendale* NT 7344, 22.vi.1960 (AD, CBG, MEL, NSW, NT); Field R.; *C.R. Dunlop* 2580, 23.v.1972 (NT); Powells Ck, *W. Holtze* 134, 1894 (MEL); Finke R., *H. Kempe* s.n., 1889 (MEL); Birrindudu, *P.K. Latz* 4000, 18.vii.1973 [CANB, DNA, NT, PERTH (n.v.)]; 23 miles W of Mount Riddock H.S., *D.J. Nelson* 2222, 19.vii.1972 (NT); Charlotte Waters, *W. Schwartz* s.n., 1889 (MEL).

QUEENSLAND: Longreach, *J. Bancroft* s.n., -viii.1918 (BRI); Julia Creek, *S.T. Blake* 6335, 21.vi.1934 (BRI); Cape R., *E. Bowman* s.n., undated (K, syntype of *Pterigeron adscendens*); 28 miles E of Isisford, *S.L. Everist* 2980, 10.vi.1947 (BRI, CANB); subtropical New Holland, *T.L. Mitchell* 252, 2.viii.1846 (K); Suttor R., *F. Mueller* s.n., undated (K, syntype of *Pterigeron adscendens*; MEL 42542); Flinders R., *F. Mueller* s.n., undated (K, syntype of *Pterigeron adscendens*); Aramac, *C.T. White* s.n., -iii.1918 (BRI).

NEW SOUTH WALES: Mt Poole, *W. Bauerlen* 300, -x.1887 (MEL).

SOUTH AUSTRALIA: Frome R., *J.M. Black* s.n., 12.x.1917 (AD, three sheets); towards L. Eyre, *E. Giles* s.n., 1872 (MEL); Evelyn Downs, *E.H. Ising* s.n., 3.ix.1952 (ADW); Mt Lyndhurst, *C. Koch* 140, 1897 (MEL, NSW); Blanchewater, *R.H. Kuchel* 823, 21.viii.1963 (AD); L. Eyre, *W.B. Spencer* s.n., -ix.1903 (NSW); western edge Simpson Desert, *D.E. Symon* 3294, 14.ii.1965 [ADW, MSC, (n.v.)]; 80 km W of Oodnadatta, *S.A. White* s.n., 11.vii.1914 (AD).

WESTERN AUSTRALIA: 3.5 miles W of Mt Stuart, *H. Demarz* 2482, 20.viii.1970 (PERTH); W of Wiluna, *C.A. Gardner & W.E. Blackall* CAG 2385, undated (22.vii.1931) (PERTH, includes *S. liatroides*); Wandagee, *C.A. Gardner* 3238, 29.viii.1932 (PERTH); Gordon Downs, *L.J. Mulhearn* 286, 9.vii.1949 (NT).

Notes

Amongst the specimens annotated and cited by Bentham in describing *Pterigeron adscendens* is a specimen of Mueller's from Roper R. This is *S. odora*. Of the remaining four specimens, Mueller's specimen from Suttor R. was selected as the lectotype.

The preferred habitat of *S. adscendens* in the Northern Territory is the cracking clay plains of the Barkly Tablelands. It occurs in similar areas in western Queensland.

8. *Streptoglossa cylindriceps* (Black) Dunlop, comb. nov.

Pterigeron cylindriceps Black, Trans. R. Soc. S. Aust. 39:839 (1915), *basionym*.

Type: Moorilyanna Waterhole, *S.A. White* s.n., 7.vii.1914 (AD 97131197, lectotype here designated); 50 miles W of Oodnadatta, *S.A. White* 2, 1.vii.1914 (MEL 42547, syntype).

Annual or short-lived perennial *herb*; vegetative parts not aromatic (? slightly so), pilose, glandular; glands very shortly stipitate, appearing sessile. *Stem* prostrate, leafy. *Leaves* oblanceolate to spatulate or obovate, acute to obtuse, bases attenuate, 0.4-3.5 cm long, 0.1-2 cm wide, margins entire or regularly serrate. *Capitula* on long or short branches, towards or at the periphery of the plant; florets 35-80, disc fewer than marginal. *Involucre* 1.5-2.3 cm long. Outer *phyllaries* glabrous or glabrescent, non-glandular; median and inner glabrous, non-glandular. *Receptacle* alveolate-fimbriate, glabrous, non-glandular. Corollas of *disc florets* 7-9 mm long, 5- or 4-lobed, glabrous, glandular. *Achenes* curved, 3.5-5 mm long, sparsely sericeous; with 7-9 ribs. *Pappus* in a single series or with a few setae in a second series, recurved from below the middle on drying.

Distribution

Northern Territory, South Australia and Western Australia. Map 2.

Selection of Specimens Examined

NORTHERN TERRITORY: 1 mile NW of Central Mount Wedge Homestead, *G.M. Chippendale* NT 1838, 10.xi.1955 [AD (n.v.), BRI, NSW, NT]; Napperby, *C.R. Dunlop* 2462, 20.i.1972 (CBG, DNA, NSW, NT); Ayers Rock, *C.R. Dunlop* 2974, 31.viii.1972 (ADW, BRI, CANB, CBG, DNA, MEL, NSW, NT); Napperby,

T.S. Henshall 1209, 13.i.1976 (NT); Napperby, *P.K. Latz* 5950, 9.v.1975 (BRI, CANB, L, NT); c. 3 km N of Charlotte Waters, *E.A. Shaw* 469, 10.x.1966 (AD).

SOUTH AUSTRALIA: Alberga R., near Todmorden, *H.W. Andrew s.n.*, 2.vii.1920 (AD); Muloorina, *R. Hill* 247, 25.vii.1955 (AD); Pedirka, *E.H. Ising s.n.*, 26.viii.1932 (AD); 9 miles N of Warrina, *T.R.N. Lothian* 1367, 7.viii.1963 (AD); Diamantina R., *Morgan s.n.*, 1931 (AD); Mt Parry, *N. Tate s.n.*, -viii.1883 (AD, MEL); 50 miles W of Oodnadatta, *S.A. White* 2, 1.vii.1914 (MEL 42547, syntype of *Pterigeron cylindriceps*); Moorilyanna Water-hole, *S.A. White s.n.*, 7.vii.1914 (AD 97131197, syntype of *Pterigeron cylindriceps*); Bloods Ck, *S.A. White s.n.*, 20.vii.1921 (AD).

WESTERN AUSTRALIA: Wiluna, *T.E.H. Aplin* 2424, 21.viii.1963 (NT, PERTH); NE of Mullewa, *A.M. Ashby* 2552, 17.viii.1968 (BRI); Yandal, *W.E. Blackall s.n.*, -ix.1939 (PERTH); Glenom, *N.T. Burbidge* 176, 18.vii.1938 (PERTH); 20 miles S of Mundiwindi, *N.T. Burbidge* 6059, 9.v.1958 (AD, CANB, PERTH); upper Swan R., *M. Eaton s.n.*, 1883 (MEL, includes *S. liatroides*); Nannine, *W.V. Fitzgerald s.n.*, -ix.1903 (NSW, includes *S. liatroides*); 10 miles S of Mt Magnet, *A.S. George* 907, 21.viii.1960 (PERTH); between Yuin and Murchison Rivers, (*E. Giles s.n.*, undated (1876) (MEL); Port Hedland area, *B. Runich s.n.*, undated (PERTH); 2 miles E of Windidda stockyards, *N.H. Speck* 1256, 20.viii.1958 (CANB, PERTH); Mt Narryer, *I. Tyson* 32, 1893 (MEL); upper Murchison R., *H. & J. Walsh* 13, 1894 (MEL); Bebele Junction, *D.G. Wilcox* 28, 31.iii.1952 (PERTH); Bilgarrie, Cutarrie Bore, *P.G. Wilson* 7410, 28.vii.1968 (PERTH).

Notes

Black cited two specimens when describing *Pterigeron cylindriceps*. One only of these specimens is held at AD and it is this specimen which is chosen as the lectotype.

In the original description, Black describes this species as erect. The author's experience and field notes on herbarium labels suggest, however, that it is prostrate. This habit distinguishes it from all the other taxa with the exception of a form of *S. liatroides* from Western Australia.

Excluded Species

1. *Pterigeron filifolius* (F. Muell.) Benth. = *Allopterigeron filifolius* (F. Muell.) Dunlop (1981).
2. *Pterigeron dentatifolius* F. Muell. = *Dichromochlamys dentatifolia* (F. Muell.) Dunlop (1980).

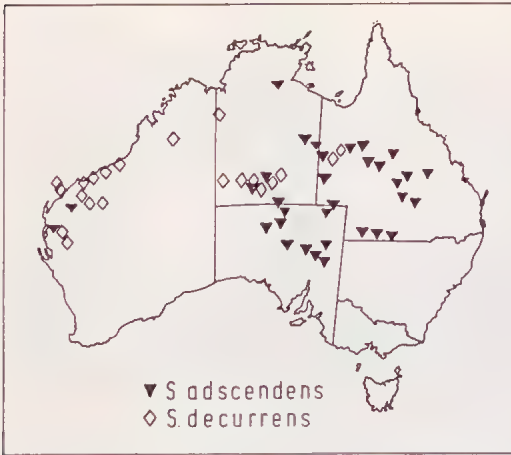
Acknowledgements

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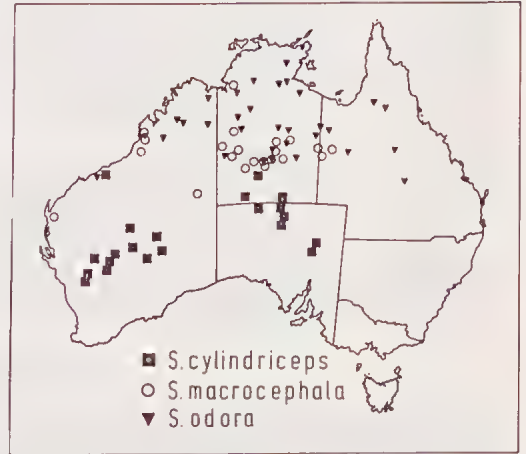
I am especially indebted to Dr Hj. Eichler, former Curator, Herbarium Australiense, for advice on nomenclatural matters and for valuable comments on an early draft manuscript.

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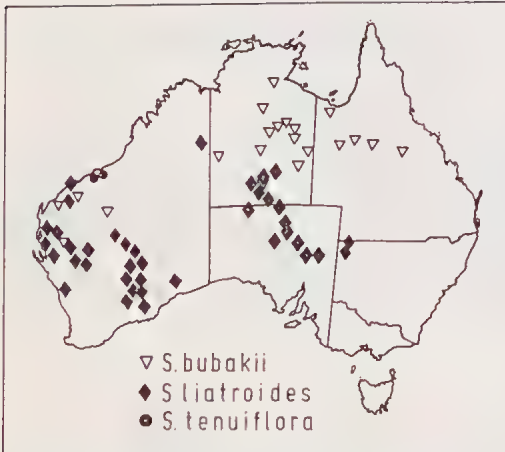
Costs of publication of this paper were met by the Northern Territory Government.



Map 1. Distribution of *Streptoglossa adscendens* and *S. decurrens*.



Map 2. Distribution of *Streptoglossa macrocephala*, *S. odora* and *S. cylindriceps*.



Map 3. Distribution of *Streptoglossa bubakii*, *S. liatroides* and *S. tenuiflora*.

References

- Airy Shaw, H.K. (1973). J.C. Willis's "A Dictionary of the Flowering Plants and Ferns" 8th edn (University Press: Cambridge).
- Bentham, G. (1867). "Flora Australiensis". 3: 531-533. (L. Reeve & Co: London).
- Bentham, G. (1873). Notes on the classification, history, and geographical distribution of Compositae. *J. Linn. Soc. Bot.* 13: 335-557.
- Bentham, G. & Hooker, J.D. (1873). "Genera Plantarum". 2: 163-533. (L. Reeve & Co.: London).
- Black, J.M. (1915). Scientific notes on an expedition into the northwest regions of South Australia. *Botany. Trans. Roy. Soc. S. Aust.* 39: 839.
- De Candolle, A.P. (1836). "Prodromus systematis naturalis regni vegetabilis." 5: 293. (Victoris Masson: Paris).
- Domin, K. (1929). Beiträge zur Flora und Pflanzengeographie Australiens. *Bibl. Bot.* 89: 1217.
- Dunlop, C.R. (1980). *Dichromochlamys*, A new genus in Asteraceae (Astereae). *J. Adelaide Bot. Gard.* 2: 235-239.
- Dunlop, C.R. (1981). *Allopterigeron*, A new genus in Asteraceae (Inuleae). *J. Adelaide Bot. Gard.* 3: 183-186.
- Gray, A. (1852). Plantae Wrightianae Texano—Neo-Mexicanae. Part I. *Smithsonian Contributions III*: 9.
- Hoffman, O. (1897). In Engler, A. & Prantl, K. (Eds), "Die natürlichen Pflanzenfamilien". 4: 87-391. (Wilhelm Engelmann: Leipzig).
- Merxmüller, H., Leins, P., and Roessler, H. (1977). In Heywood, V.H., Harborne, J.B. and Turner, B.L. (Eds), "The Biology and Chemistry of the Compositae". 1: 577-602. (Academic Press: London).
- Mueller, F.J.H. (1859a). "Report on the plants collected during Mr. Babbage's expedition into the north-western interior of South Australia in 1858". 12. (Government Printer: Melbourne).
- Mueller, F.J.H. (1859b). Some hitherto unknown Australian plants. *Trans. Philos. Inst. Victoria* 3: 56.
- Mueller, F.J.H. (1863). A record of plants collected by . . . (the) . . . exploring expedition into North-west Australia. *Trans. Bot. Soc. Edinburgh* 7: 493.
- Mueller, F.J.H. (1875). "Fragmenta Phytographiae Australiae". 9: 119. (Government Printer: Melbourne).
- Randeria, A.J. (1960). The composite genus *Blumea*, a taxonomic revision. *Blumea* 10: 176-317.
- Turczaninow, N. (1851). Synanthereae quaedam hucusque indescriptae. *Bull. Soc. Imp. Nat. Moscow* 24(1): 172.
- Turner, B.L. (1970). Chromosome numbers in the Compositae. XII. Australian species. *Amer. J. Bot.* 57: 382-389.

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In the following list the taxon to which each collection is referred is denoted by the initial letter of the species name as follows: a = *Streptoglossa adscendens*; b = *S. bubakii*; c = *S. cylindriceps*; d = *S. decurrens*; l = *S. liaioides*; m = *S. macrocephala*; o = *S. odora*; t = *S. tenuiflora*.

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